

RESEARCH ARTICLE

# A Conceptual Framework for Understanding Lake Governance: Lake's People, Development, Conservation, and Government

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**Abstract:** Governance's concept is well-established, multifarious, and too considerable in meanings, indicators, and frameworks, making it distinct to different people and unappealing to apply in lakes. Under this, governance ought to be reductionist-parsimony to be manageable and straightforward in refocusing the primary reference—lake governance. Lake governance's concept is rarely utilized in scholarly literature nor acknowledged in the lake's discourse. To ameliorate, the article intends to be a discourse—elucidate, understand, and contribute to lake governance's analytical framework, respectively, the constituent's interrelationship among the lake's people, development, conservation, and the government, its most influential compartment. With this, lake governance asserts (a) development and conservation are associated but often discord and stand-alone; (b) lake's people are contingent but commensurate with many or few communities; (c) lake's people are affected by context-specific situations and multiple-various interests, making decisions problematic; (d) the government requires to penetrate and ultimately decide on the lake; and (e) the government is of utmost function as the universal principle in a lake. On the whole, the precept is that the administrative and managerial government presides over and perpetuates to enhance economic development by the people and to protect ecological conservation in the lake.

**Keywords:** Concept, Conservation, Development, Framework, Government, Governance, Lake, Lake Governance

Governance's concept is well-established and diverse, and water and lake governance indicators and frameworks exist. Yet, lake governance's concept is rarely utilized in scholarly literature nor acknowledged in lake's discourse. In water governance, there are four recognized indicator frameworks: the OECD Water Governance Indicator Framework, the UNDP-SIWI Water Governance Indicator Framework, the Transboundary Waters Governance Assessment, and the Water Governance Indicator Framework. Firstly, the OECD Water Governance Indicator

Framework consists of three main dimensions clustered into several principles: effectiveness (i.e., clear roles and responsibilities, appropriate scales within basin system, policy coherence, and capacity), efficiency (i.e., innovative governance, regulatory frameworks, financing, and data and information), and trust and engagement (i.e., integrity & transparency; stakeholder engagement; trade-offs across users, rural and urban areas, and generations; and monitoring and evaluation; Organisation for Economic Co-operation and Development [OECD],

2015, 2021; Johns & VanNijnatten, 2021). Secondly, the UNDP-SIWI Water Governance Indicator Framework contains four fundamental dimensions: social (equitable use), economic (efficient use), political (equal democratic opportunities), and environmental (sustainable use; Tropp, 2006; Jacobson et al., 2013; UNDP-SIWI Water Governance Facility, 2021a, 2021b). Thirdly, the Transboundary Waters Governance Assessment includes seven expanded categories: governance architecture, governance process, stakeholder engagement, ecosystem pressure, ecosystem state, social justice, and human well-being (Mahon et al., 2016; UNEP Transboundary Waters Assessment Programme, 2016). Lastly, the Water Governance Indicator Framework encompasses the three central dimensions in activities: functions (i.e., policy and strategy; coordination; planning and preparedness; financing; management arrangements; monitoring, evaluation, and learning; regulation; and capacity development), attributes (multi-level, participation, deliberation, incisiveness, accountability, transparency, evidence-based, efficiency, impartiality, and adaptiveness), and outcomes (i.e., enabling conditions, behavioral change, change in social and environmental conditions, and sustainability and resilience of changes achieved; Jiménez et al., 2020; Stockholm International Water Institute, 2020).

In lakes, there are two acknowledged conceptual governance frameworks: one is notable, the Integrated Lake Basin Management (ILBM), and the other is recent, the Adaptive Integrated Lake Basin Management (AILBM). The ILBM was based on the Global Environment Facility (GEF) project of the Lake Basin Management Initiative and intended to complement the Integrated Water Resources Management (IWRM) approach (International Lake Environment Committee Foundation, 2005). The ILBM framework is designed to support the managers and stakeholders in attaining sustainable management of lakes and their basins. This framework has six fundamental governance components: institutions, policies, participation, information, technology, and finance (Nakamura & Rast, 2014; International Lake Environment Committee Foundation, 2021). The AILBM has used an integrative design by deriving the IWRM, ILBM, and adaptive management and governance (AMG; Cookey et al., 2016, 2018). The AILBM framework aims to measure governance and management's impact and performance to ensure

the lake basin's sustainability. This governance framework has two comprehensive sections: the diagnostic measures (sectors, stressors, resource systems, institutions, actors, and resource management system) and the prescriptive assessment (adaptability, collaboration, resilience, decentralization, integration, and participation; Cookey et al. 2016, 2018).

From the water indicator frameworks to the lakes conceptual frameworks, governance is debilitated not because the idea does not exist but because it supplies excessively in the conceptualization. This is similar to the concept of stretching's problem, where abstraction is used to cover many things in a different context—the descriptive meaning or applications become more blurred in deploying (see Sartori, 1970; Collier & Mahon, 1993; Carlsson, 2017). Governance criteria are captured too big, which is usually burdensome to clarify and assimilate on a large scale. This is true in the different lakes (e.g., small and big lakes, tropical and temperate lakes, natural and artificial lakes, congested and sparse inhabited lakes, sole and trans-border lakes) in applying the context-specific situation where the standards, outcomes, or implications might be promiscuous or loose. A good example is the AILBM framework's measures (i.e., sectors, stressors, resource systems, institutions, actors, and resource management system and adaptability, collaboration, resilience, decentralization, integration, and participation) in using lakes, such as Tadalac Lake and Dagatan Lake (see Brillo, 2017b; Brillo, Quinones, et al., 2017). These standards or measures are associated with the small lakes' issues but are mostly marginally connected except for the government criterion, which is directed and omnipresent. With this, it is necessary to refocus governance by emphasizing the government's reference to lakes. Particularly, it needs to be reductionist or parsimony—the simplest way to understand, elucidate, and grasp the lake from the concept to the main criterion. Notably, the concentration restricts the broad governance to the distinct principle—lake governance, and the most influential constituent—government.

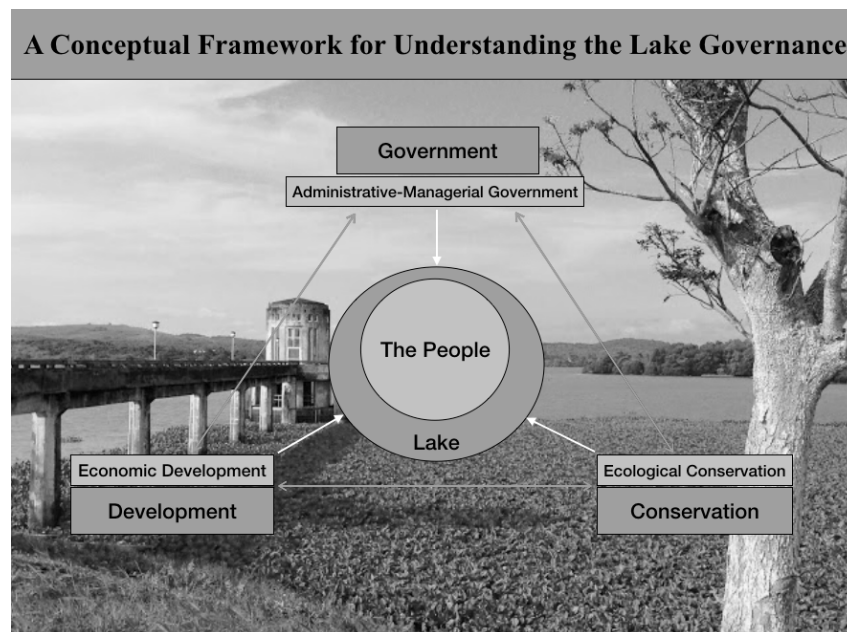
Overall, the concept of lake governance is deficient and obscure, and its decisive manifestation—the government—needs to bring it to the fore. This is to say that lake governance ought to zero in on the concept by stressing heavily on the government's consequences. The term lake governance lacks the concepts of frameworks from governance to water governance, and its conceptualization is rarely used

and examined in the literature. Using the web search engine, lake governance's concept can be broadly categorized into three understandings: one is about the use of technology (i.e., data lake governance), two is about the use of water governance, specifically on good governance of transboundary lakes (i.e., a book entitled *Lake Governance*, see Grover & Krantzberg, 2018), and three is about the use on governance on small lakes (i.e., existing journal articles designated as lake governance, see Brillo, 2015a, 2015b, 2016a, 2016b, 2016c, 2016d, 2016e, 2017a, 2017b, 2017c, 2017d, 2020a). In discussing lake governance's concept, utilizing the data lake governance is less connected, the water governance is modestly connected, and the governance on small lakes is firmly connected. In checking Google Scholar in 2022, the term "lake governance" has alluded to 350 results, but the vast majority are cursory only. In other words, lake governance was mentioned only without explicitly defining the significant meaning; thus, it is indubitably less studied.

Lake governance is primarily about government, but other criteria are also consequential and necessary. Lake governance and government do not exist alone, but other valuables (e.g., resources or assets) in a lake must also be present—inhabitants, development, and conservation. The government is predominant in lake governance, but the other variables must occur too; otherwise, without them, it would be difficult to

understand and improve, considering being interactive and complex in the lakes. In a lake, the populace is attached and regarded as the most important—so it should not think of an inland body of water alone but always associate with the people. In the concepts of development and conservation, the literature on lakes exists but is often in disharmony and stand-alone. This means that the works or studies in lakes are usually separated and not clearly connected with development and conservation, as well as government and the people. Besides, the criteria or valuables have contributed considerably to the lakes via the natural-physical sciences, so lake governance, mainly social sciences, needs to pursue and bestow the people. All of them slightly examine the relationship or interaction in the lakes, which is why lake governance must be given sufficient attention in the discourse.

In lake governance, the variables are firmly connected—government is the main constituent, and development and conservation are interdependent constituents. Simply put,  $y = f(x)$  where "y" is the lake's people and "x" is the function of lake governance, that is, the government as well as development and conservation to be operated effectively. Thus, by discussing the literature review gaps and the grounds for the research problem, this paper intends to explicate and fathom a conceptual framework of lake governance (see Figure 1). Accordingly, this article has outlined the discussion as follows: (a) governance frameworks



**Figure 1.** Lake Governance: The People, Lake, Conservation, Development, and Government

and lake governance; (b) conservation, development, and the lake's people; (c) lake governance, the people, and the government; (d) primacy of government in lake governance; and (e) concluding remarks. The study embraces a theoretical and philosophical perspective by connecting the concepts to understand and broaden the knowledge base in lake governance.

### **Conservation, Development, and the Lake's People**

Conservation and development are essential to the lake and the people, regardless of the obstacles or consequences. The concept of lake conservation refers broadly to ecological conservation, maintenance, protection, and restoration of the physical surroundings and biodiversity of lakes. In the conservation of lakes, the biology, chemistry, and physics disciplines have helmed and contributed significantly to the literature, particularly in the areas of limnology, hydrology, and ecology. Ecological conservation has advanced considerably in biotic and abiotic studies and applications in lakes (e.g., lake morphometry, lake stratification, water quality, flora-fauna, and fisheries science). The concept of lake development refers broadly to the economic development, enhancement, inclusiveness, and sustainability of the societal undertaking or activities, whether industrial, agricultural, or financial assets of lakes. In the development of lakes, the economics, sociology, and political science disciplines have presided and promoted notably to the literature, especially in the areas of development economics, human development, community development, and development studies. The economic development has shared markedly in utilizing resources and enhancing the welfare of the inhabitants and townspeople of lakes (e.g., manufacturing, tourism, agriculture, fisheries-aquaculture, livelihood, and employment).

In ecological conservation, nearby or distant, human society is affected directly and indirectly by a lake's biotic and abiotic constituents. The typical example in many lakes is eutrophication, where a body of water becomes exceedingly enhanced by nutrients, frequently the chemical elements of phosphorus and nitrogen, which lead to the rapid proliferation of algae (e.g., U.S. Geological Survey, 2019; Eutrophication, 2022). In this process, the overabundance of nutrients that enter

a lake, often through fertilizers, detergents, or sewage, creates an algal bloom (i.e., the excessive growth of algae), which is detrimental to the ecosystem. In this extreme case, the aquatic ecosystem is very damaged when a lake's oxygen level is depleted, as fishes die or the toxin is secreted like harmful algal blooms (HAB; e.g., Watson & Molot, 2013; Karpowicz et al., 2020). Overall, the eutrophication complication of the lake is connected to the people, from human activities (like carrying and enriching the nutrients) to consequences (like depleting fisheries that affect the populace's livelihood and aquaculture-fishing industry).

In economic development, human society uses the lakes' resources to improve the well-being and living standards of individuals and villages to the growth and progress of the municipalities and cities. One good example in many lakes is tilapia aquaculture, which is farming in inland freshwater that involves intervening and cultivating fish production (e.g., Yuan et al., 2017; Food and Agriculture Organization, 2021). Being the second most cultured fish globally, tilapia has quadrupled over the past decade and continuously grows around 10%–12% per year of global production (Food and Agriculture Organization, 2018; Prabu et al., 2019). The tilapia aquaculture is suitable for lakes, whether in cage or pen system, subsistence or commercial farming, and tropical or subtropical climates. The infrastructure and management are usually low-cost, and the fish is recognized as fast-growing, prolific breeders, and palatable for consumption. Overall, tilapia aquaculture's impact on the lake is generally favorable to the people, from providing livelihood (like supplying protein sources and food affordability) to alleviating poverty (like creating enterprise employment and income).

The many impediments of the lakes' people are fundamental in committing conservation efforts and utilizing development outcomes. In principle, the lakes and their community's dilemma are patently associated and cannot be separated between conservation and development; it is not versus but together. If one is apart from the other, then the work would be insufficient in understanding the predicament of a lake and its population. One perspective alone would restrict a lake and the people's situation, which often generates unintentional activities, inadvertent actions, unsatisfactory tasks, and inadequate solutions. The typical case is the issue of the dwindling of the Aral Sea, previously the world's fourth-largest lake. Being



an endorheic or closed lake, the Syr River and Abu River have long supplied the Aral Sea. In the early 1960s, the construction of irrigation canals for the two main rivers was dramatically expanded by the Government of the Soviet Union's policy to divert for agriculture, principally for large-scale cotton production (see Kapuscinski, 2019; Gosling, 2013; Environmental Justice Foundation, 2012). In this rudimentary example, the Aral Sea water was used for economic development, specifically exploiting the cash crop and disregarding ecological conservation, primarily shrinking the lake and declining the ecosystem (see Usmanova, 2003; Micklin, 2010; Loodin, 2020).

In this situation, the Aral Sea's outlook is zero-sum, where economic development is overbearing and ecological conservation is neglected. In the ideal, this lake and its populace's effect should be positive-sum, where development and conservation are equipoise—the former will gain by reasonable demands, and the latter will also gain (rather lose) by decent demands. In other words, both demands should be accepted to counterbalance the people's satisfaction goal and the lake—that is, offsetting the agricultural production's use with the Aral Sea's preservation. However, in the real world, it is often impossible for development and conservation demands to have equal gains. Based on the interests, one value will be more proportionate in gains to the other value, but at least the other value should receive something (i.e., “modest” proportion) rather than nothing. In a lake and its individuals, receiving something is crucial because it does not mean having zero at the start but a small movement to spark in improving the conservation or development obstacle. With a little steady measure to change, the lake and the people's issue will augment the aim regardless of time instead of having nothing, which usually brings about severe and challenging problems, or worse, too late into the future, as in the case of the Aral Sea's dilemma.

Moreover, whether using nearby or distant people, the lake's people need to balance conservation and development demands. In other words, protecting ecological conservation and enhancing economic development must be in equilibrium. This principle in lakes is well known at present as much literature have argued or raised about this (e.g., Brillo, Anastacio, et al., 2017; Doran et al., 2018; Bhargava, 2019; Brillo, 2020a). But in the real world, the parallel between conservation and development is usually contingent on

the people living or using the lake, whether many or few people are associated with a lake. As a rule, if many people inhabit or utilize a lake, it is more challenging to prevent or rehabilitate the conservation and more assured to instigate or continue the development. If few people are inhabiting or utilizing a lake, it is easier to protect or restore the conservation and more challenging to dissuade or shift the development. An excellent example of having many people occupying is Bunot Lake, a small lake. Being part of the city center, Bunot Lake's people introduced aquaculture, particularly tilapia farming, in 1976. Since then, the settlement has multiplied and the tilapia cages and pens have expanded in the small lake (see Brillo, 2015b, 2017a; Brillo et al., 2019). The consequences are that economic development was successful, but ecological conservation was difficult to change primarily due to the people's resistance to limiting or restricting the establishment.

Although the change in lakes is difficult, sometimes it happens, usually over a long time, and costly, as in the case of Sampaloc Lake. Being the city's main urban lake, Sampaloc Lake's people had embraced development from the 1980s to the 1990s, when the area had drastically increased in housing, tilapia farms, restaurants, and informal settlers. Unfortunately, the economic development created problems in the lakes, such as water pollution, fish kills, foul stench, algal blooms, water hyacinth proliferation, and slow tilapia growth (see Brillo, 2016a, 2016b, 2016c). Consequently, the people gradually emphasize the lake's ecological conservation (i.e., reducing the fish pens and cages, removing water hyacinths, constituting a development plan, and relocating illegal settlers). It took a while (i.e., the 2000s to the present) with recurring expenses (often with a lack of funding), but it happened.

### **Lake Governance, The People and The Government**

The concept of lake governance refers to the political processes in which authority and power are exercised in the administration and management of the lakes and the people for economic development and ecological conservation. The concept's values are that the authority is legitimate, and the power simply means institutions (i.e., formal or informal),

either organization or practice. In lake governance, the government is the foremost among the group of institutions. The government is a formal institution in a lake, whether the national government, governmental agencies, local governments (either provinces, cities, or municipalities), or barangays. In lakes, the government is usually equated to the local government and supplemented by governmental agencies and barangays (e.g., Brillo, 2016d; Anastacio & Brillo, 2020). In a simple way, the connection between the local government and the rest of the lakes is about finance. In allocating funds, the local government often gives to the barangay and appeals to the governmental agencies; the former typically has less financing capacity, and the latter usually has more financing capability. In lake governance's issue, the government's function is essentially the administration (principally, decision-making via resolution) and the management (mainly executive via implementation). Both are intertwined—the administration establishes and the management carries out a lake's principles, policies, and regulations.

The administrative-managerial government is crucial and fundamental in the relationship between the people and the lake, whether to use or employ resources and settle or decide the issues. One good example is the case of Tikub Lake, a small freshwater lake located in the Municipality of Tiaong, Quezon (Philippines). The small lake has been unknown and undeveloped by the community and the town in the long past. In the early 2000s, the local government embraced a vision to elevate a tourism-oriented development in Tikub Lake. The administration decided to prioritize the tourism project, and the management implemented rudimentary works, like organizing the people living in the lake (i.e., the *Samahan ng Bantay Lawa ng Tikub [SBLT]*), emphasizing tourism over tilapia aquaculture, instituting the essential infrastructures and facilities, and establishing external linkages with the national and provincial agencies to assist in sourcing financial and technical support (e.g., Department of Tourism [DOT], Community Environment and Natural Resources Office Region [CENRO], Bureau of Fisheries and Aquatic Resources [BFAR], and Provincial Agriculturist and Fisheries Division [PAFD]; see Brillo et al., 2017a; Brillo 2017c). Overall, Tikub Lake's enhancement is about the local government's initiative to make incremental but consistent improvements on the small lake over the years.

In lake governance, the government is the crux of the people and the lakes' conservation and development. The fundamental components of lake governance—the people, the assets, and the interests—are valuable in utilizing or applying for the lakes. All the lakes' constituents do not exist in a vacuum, as often the government cannot be left without them. The people living in different areas and allocating resources or protecting the lakes' environment frequently necessitate the government. In lakes' people, the implementation of resources, like fisheries and aquaculture, water extraction (e.g., irrigation) and commercial activities (e.g., tourism), and manipulating politics or business, like directing, influencing, or controlling the special concern, are thoroughly related to government. Indeed, the more people who live or use the lakes, the more complicated it becomes, then the more the government is needed.

An example is the introduction of human settlements in a lake. The moment people inhabit and the lake's assets are used, the endeavor (e.g., public or private undertaking) is engaged. This assembly (i.e., a group of people) usually creates disagreements in the agenda due to multiple but diverse interests (e.g., the business impact interface of the environmental issues in a lake), as in the relationship between conservation and development. In the beginning, the absence of human settlements, ecological conservation, and economic development are typically free—no need for rehabilitation and commercial progress in the lake. However, when human settlements are established and prospered, conservation and development issues frequently emerge. This is especially true when the population's intention is a deficit outcome or imbalance sustainability between the two concerns. Thus, in achieving the human settlement problems and reconciling ecological conservation and economic development, the essential way is to employ the government—as the trade-off among them necessitates the political authority to compensate for the lake.

The people and government are fundamentally linked in lake governance. Being the main internal actors, human activities usually cause the highest effect and problems in the lakes. Ideally, the lake's people should collectively decide whether to pursue an undertaking or resolve a difficulty. Routinely, other external actors like scientists, academics, and non-governmental organizations (NGOs) will contribute

(e.g., knowledge, technology, or finance) and assist in issues, but eventually, the people will decide. In theory, if the collective has made an intention but proved to be erroneous, then the lake's people can simply modify or rectify it. However, it is difficult to set right in the real world because the lake's people often involve context-specific circumstances and multiple-diverse interests. This means that the people are not one but more than one—in other words, the people in the lake are comprised of several or many individuals who usually have a particular situation in the issues and distinct interests in making a decision. That is why, in reality, the collaboration or cooperation among the lake's people is problematic: either difficult to make a resolution due to the multiple but different opinions or difficult to revise or change a decision (i.e., to enhance or rectify) due to the accepted dominant interest (see Tsebelis, 1995; Haggard & McCubbins, 2001; Brillo, 2011a, 2011b). The distinct but various outlook and the dominant interest (being the winners) will always protect their stake against the innovation and the losers, respectively. Both predicaments—difficult to make or difficult to change in the lake's people—are very tough to overcome; thus, the Government is necessary to compel them in choices, decisions, and trade-offs. As the people's assumption is defective or unsuitable in the lake's obstacle, then the government will be the one to decide and compensate.

### **The Primacy of Government in Lake Governance**

The concept of government refers to the political administrative-managerial authority, which is the dominant power that produces, applies, and enforces the rules of lakes. The government is the political authority of lakes that generates the formal institutions (e.g., laws, policies, and regulations) in exercising and executing the decisions as well as oversees the informal institutions (e.g., customs, traditions, and norms) in supervising and enforcing the convention. It is also the central authority that constitutes the various administrative agencies (e.g., departments, commissions, authorities, councils, and offices), which often is indispensable in decision-making. Among the non-governmental actors or external stakeholders (i.e., community organizations, NGOs, businesses, and international/multilateral organizations), the

government is the foremost mantle in intervening in the people's development, the lake's preservation, and the compulsory equilibrium of them (i.e., balancing development and conservation; e.g., Jetoo et al., 2015; Brillo, 2017d; Brillo, Quinones, et al., 2017; Zhang, 2017). In less ideal circumstances where the non-governmental actors (i.e., individuals or organizations) are undersupplied or incapable of fulfilling their duties to a lake, the government is obliged or forced into the situation. If the other actors are lacking, but as long as the government exists, then it is usually more capable of delivering what the lake needs. If the other actors are present, but the dominant interest is captured in the lake (i.e., unrestricted commercial business or dogmatic radical ecocentrism), then as long as the government is extant, it can obligate to balance the occurring concerns in the lake. In other words, whether lacking or captured, the lake's predicament is about the function of the government.

The government is precedence in lake governance and is preeminent among the other actors. Even if the other stakeholders are either absent, apathetic, inadequate, or arbitrary, as long as the government is present and operating, it can compensate in a lake. If a policy does not exist or work in a lake, then the government must be the enabler. If there is an impediment to conservation or development in the lake, then the government must be directly involved. In both examples, the government cannot retreat because the people are the utmost beneficiary in the end. Failure is never an option because the government is always subjective and biased about the people; often, the government (right or wrong) follows the populace to make it relevant and preserve the state. If the government recedes to the public, then the community's backing (e.g., voters, inhabitants, and supporters) would conceivably bring uncertainty to itself and the lake. This is why the government must be eventually and constantly extant at the lake's people, one way or the other. Thereby, although the lakes' areas and issues are context-specific applications (i.e., no one-size-fits-all solution in lakes), the government (democratic or not) usually is a universal principle or broad generalization that speculates and applies to all the lakes (whether small or big lakes, tropical or temperate lakes, and natural or artificial lakes). Thus, notwithstanding the efforts and effects of lakes are generally diverse, the government's function is omnipresent and straightforward.

Initiating the presence of the government in a lake is often costly. From being not active or absent in safeguarding the lake and its people, the government establishing them is usually expensive, requiring the following: organizations, rules, involvement, intervention, information, and funding (see Nakamura & Rast, 2014; International Lake Environment Committee Foundation, 2021). This is exorbitant, especially when the lakes are under the poor municipalities, which are frequently strapped for finance and assets (compared to wealthy cities). In some cases, when the government has inadequate funds, non-governmental actors are entered to assist and foster in a lake, like a community organization or NGO. The arrangement of the non-governmental actor and the lake's people is beneficial but temporary because it is difficult to maintain in the long run (e.g., a community organization unable to consistently bear finances or an NGO moving out the operations/activities). From scratch, the government is challenging to set in motion, but eventually, the government will gradually establish its presence in the lake; then, it will gradually become active and dominant in matters and other actors. It is crucial that the government needs to continue being there in the long term. Sustaining government is of utmost consequential (compared to the other actors because they can depart or withdraw in the lake) as it is there in existence to many concerns—constantly in the lake's people.

A good example is the case of Pandin Lake, a small lake situated in Barangay Santo Angel, San Pablo City, Laguna (Philippines). The administrative-managerial government of Pandin Lake is presided over by two authorities: the Laguna Lake Development Authority (LLDA) and the City Government of San Pablo. The LLDA has special powers to exercise water rights over the Laguna de Bay and other water bodies within the Laguna de Bay region, including Pandin Lake (via The Laguna Lake Development Authority Act, 1966; Executive Order No. 927, 1983). The city government has jurisdiction over municipal waters by enforcing fishery laws and implementing tourism action plan-work (see The Local Government Code, 1991; The Philippine Fisheries Code, 1998; Tourism Act, 2009). Before the 2000s, the LLDA and the city government were not active in conservation or development-related actions in Pandin Lake. In the early 2000s, an NGO helped the people to organize and launch a tourism enterprise—the Pandin Lake Tour project (Brillo,

2016e, 2020b; Brillo & Boncocan, 2016). Although the tourism enterprise had gained ground, the lake's people suffered drawbacks, like financial issues and lack of a development-management plan, access, and infrastructure, which put doubt on the future. In the 2010s, the government slowly engaged the lake's people, where the LLDA and the city government intervened to sustain and develop the tourism enterprise in Pandin Lake. The two authorities collaborated to produce the Development and Management Plan and create the Pandin Sustainable Ecotourism Development Cooperative in 2014 (see Laguna Lake Development Authority, 2014). Despite the NGO's exit, the government has steadily maintained and heavily weighted in Pandin Lake from then to the present.

The longer the government remains in the lake, the more it persists in securing the people and protecting and developing the inland water resources. The government's continuing presence in the lake is often explained via path dependence by pervasive increasing returns. Path dependence simply means that once an area has embarked on a course or track, the reversal is very costly (Levi, 1997; Pierson, 2000). This implies that the chosen course tends to stay or continue compared to changing the path, owing to increasing returns (i.e., positive feedback or self-reinforcing processes; see Brillo, 2008; also see "The driver's dilemma" Brillo, 2014). Like a locale lake, this is similar to a "government dilemma" that once the political authority in an area has set forth a track, then gradually but steadily, it institutionalizes. The longer the government operates and is involved, the more positive feedback or self-reinforcing incentives; thus, once established in a lake, it becomes persistent (i.e., an "irreversible" path). The increasing returns effects induce the status quo partiality of the government and the configuration reciprocal of constituents in the lake (see North, 1990; Pierson, 2000; Brillo, 2011a). In the former, political authority is an inherent attribute of policies in compelling and sustaining to bestow stability and predictability. In the latter, the complementary arrangement creates an asymmetry between the government and the non-governmental actors, which dramatically widens the power to decide in a lake. Thus, when the biased government and the configuration components exist and operate, then the lake governance matter is most effective and decisive.



## Conclusion

Lake governance's conceptual framework contributes to the scholarly literature, the academic societal lake—the people, and the sine qua non, the government. In the objective, the article aims to elucidate and understand lake governance's analytical framework; explicitly, this concept is about the constituent's interrelationship among the lake's people, government, development, conservation, and the government's preeminence in the lake. The governance concept is long-standing, innumerable, and overly broad, making it unappealing to use on lakes. Lakes are diverse in areas and issues as well as context-specific in effects and applications; therefore, governance necessitates narrowing and translating lake governance to capture and assimilate the essentials distinctly. Governance ought to be reductionist-parsimony to be manageable and straightforward in refocusing and concentrating on the foremost reference—lake governance. The trouble with lake governance is that the concept has seldom been utilized in the literature and is inadequately recognized in lake discourse. With this, the conceptualization of lake governance has made the center of the lake's people; the lakes are firmly related to human activities, and the people are dynamically attached to impediment issues.

Lake governance is resolutely associated with development and conservation but is often in discord and stand-alone. Once the people are entrenched and extended in the lake, then development and conservation engagement create complications. Economic development is anchored to prosper between the communities and the resources of lakes. Ecological conservation is secured to thrive between the physical surroundings and the biodiversity of lakes. In the ideal, lake governance is positive-sum, where the lake's people are equipoise—development and conservation benefits. In the real world, the gains are usually uneven, as one is more proportional to the other in benefits. Besides, lake governance is contingent on the lake's people; many or few communities are commensurate with a lake. If there are many people, then development is more persuading to initiate or sustain, and conservation is more taxing to impede or restore. If there are few people, then development is more challenging to improve or thrive, and conservation is less demanding to preserve or rehabilitate. Thus, lake governance is securely linked to development and

conservation, but the people and the government are notably connected and immensely impacted.

In lake governance's principle, the people and the government are considerably associated with lakes because they are the ones to decide. Both are central and indispensable in using the resources or resolving the obstacles of lakes. In the ideal, the people decide the matters in the lake, right or wrong. If mistaken, the collective can put it right, but it is always the people who settle it, not other actors. In reality, people are influenced by context-specific situations and multiple-various interests, making the decision problematic. The lake's people are usually not one but several groups to decide with distinct and disparate concerns, so cooperation or coordination is difficult. Changing, altering, or modifying the settlement is challenging because the controlling interest is intensely affected. The people are onerous in making a difference in the lake, as so often, the community's "winner" is the dominant interest, asserting and securing their stake in the inland body of water. With this dilemma, the lake's people are arduous; thus, the government is impelled to enter and choose.

The government needs to be present and ultimately decide on the lake. If the lake's people are inoperative, the non-governmental actors are inadequate, and the development-conservation is imbalanced, then the administrative-managerial government sets forth to compensate, decide, and implement. If the dominant interest is captured in the lake, then the government needs to protect the numerous people. In quintessence, the government cannot withdraw and is always subjective to the populace—the deprived people versus unscrupulous interest. The government is the ultimate function that the omnipresent principle dares (whether sound or controversial suggestions) and executes for all the lakes. If the government is still absent in the lake's people, then emphasizing it is usually costly. Nevertheless, when the government is entrenched, it will gradually transform into a domineering and potent authority. The government must continuously remain to be deep-rooted in reassuring the people and developing the lake. The more the government stayed, the more self-reinforcing inducement in the lake's people, thus pushing it on an "irreversible" path.

The government is the essence of lake governance; the emptiness in lakes is non-existent, as the most influential constituent—Government—is ubiquitous. It will always accept and endure. When set in motion,

the government is about primacy; it generates stimulus as the “biased and dominant government” upholds and ameliorates the lakes’ people. The rule is that the administrative and managerial government leads and commits to enhancing economic development by the people and protecting ecological conservation in the lake. The lake’s authority gives rise to incentives among multiple but different interests and assumes decision and responsibility as the paramount public good. With all of these, lake governance is crucial for political dominance—the “hegemony government” should be consequential to the people and perpetual in the lake.

### Declaration of Ownership

This report is my original work.

### Conflict of Interest

None.

### Ethical Clearance

This study was approved by our institution.

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